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made up of three, including *Echinacea* and *Heliopsis; Gnaphalium*, of four, taking in *Antennaria*, *Anaphalis* and *Leontopodium; Pinus* of five, embracing *Abies*, *Picea*, *Tsuga* and *Larix;* all pines, firs, spruces and hemlocks and larches being, in his eye, pines. His *Vaccinium* comprised also such different genera as *Gaylussacia*, *Oxycoccus* and even *Chiogenes*, and his *Pyrola* was not a full genus without *Moneses* and the species of *Chimaphila.* The order of Cactaceæ before his time was allowed to consist of a number of genera, and *Melocactus*, *Opuntia*, *Cereus* and *Pereskia*, with types of *Mamillaria* and *Echinocactus* in the bargain—all six made up his new genus *Cactus*, which latter name, I cannot but remark, has lost its place, notwithstanding its having had Linnæus for its author. Nor are these which I have given the most striking evidences of his blindness regarding genera. His *Polemonium* comprised not only all that was then known of the genus *Gilia*, but also a *Phacelia;* his *Ipomœa* included also a Hydrophyllaceous plant, i. e., *Ellisia.* And, last of all which I will take time and space to tell of these multitudinous Linnæan confusions of genera, he combined under the name of *Lonicera* (pirated from Father Plumier), the old *Caprifolium* and *Xylosteum* to begin with, then added *Symphoricarpus* and *Diervilla* (of the same natural order), and finished, worthily of himself, by bringing in a "*Lonicera Marilandica*" (*Spigelia Marilandica*) from the Loganiaceæ and the genus *Cephaelis* from the Rubiaceæ; so bearing away under his trophy of a name *Lonicera*, five or six genera, according to the most approved authors, and representing three natural orders.

I am persuaded I need not further illustrate Linnæus' weakness on the subject of plant genera, the greatest botanists of the present century being judges.

Diatoms of Atlantic City and Vicinity.

By C. Henry Kain.

There is a popular belief that it is quite useless to attempt to collect diatoms in the winter, and while this is mainly true as regards fresh water species, it is not so with the marine forms. The only fresh water species that the writer ever collected in abundance during the winter was *Meridion circulare*, which was gathered from under the ice in January; but some marine species may be found in greater abundance during the winter months than at any other time. In order to know a locality thoroughly, however, it should be inspected both in summer and in winter.

The visitor to Atlantic City who is hunting diatoms, may always be gratified by taking the street cars and riding to the inlet. Two or three hundred yards before reaching the terminus of the road, a number of large, brackish pools may be observed on the meadows just south of the railway. These pools are quite shallow and are prolific collecting-grounds at all seasons of the year. If a day be chosen when the sun shines brightly, the surface of the mud is coated a rich brown by the myriads of diatoms which rise to the light, and if a gentle wind is blowing, the scum which is driven to the far shore by the wind is often composed entirely of diatoms without admixture of sand. On Christmas day, 1886, I collected in this way a very pure lot of *Nitzschia epithemioides*, and in another pool only a few yards away, an equally pure gathering of *Navicula veneta.* Sometimes very bright brown patches of diatoms cover the surface of the mud, and the collector, in his anxiety to secure a large gathering, is tempted to collect mud and all with the expectation of separating the diatoms from the mud by washing and whirling. The following plan will be found much better: Half fill a bottle with water; touch one of these brown patches lightly with the tip of the finger and the diatoms will adhere; then place the finger over the mouth of the bottle and shake; the diatoms are of course washed off and remain. By repeating this process again and again, the water finally becomes quite brown. By the time the collector reaches home the diatoms will have settled to the bottom, and the water may be poured off and the diatoms cleaned. It is worth while to examine under the collecting lens every promising patch of brown mud, for very pure gatherings of quite different species may often be collected within a few feet of each other. The species of which pure gatherings may be had in these pools are *Nitzschia epithemioides*, *Navicula veneta*, *Epithemia musculus* and *Scoliopleura tumida.*

A few rods south of the landing at the inlet is a flat which is uncovered at low water. Here may be collected *Schizonema*

Americanum, *Schizonema Grevillii* and *Berkleya fragilis;* and lodged upon the shells and growing upon the piling, specimens of algæ may be obtained which are often loaded with *Cocconeis* and other diatoms.

Out in the bay may be found flats, often acres in extent, where eel-grass is abundant. The grass is often loaded down with alga, which is parasitic upon it, and the alga in turn is often full of diatoms. As the water is shallow, a crab-net answers very well for dredging purposes, a single haul often furnishing a large lot of interesting specimens. I do not know what a visit to these flats in winter would reveal, but in August they are rich collecting-grounds.

It is also worth while to visit Longport, south of Atlantic City, for here, when the wind is west, quantities of algæ are blown over and stranded upon the shore of the thoroughfare. It may be mentioned, in passing, that the red species of algæ are the most prolific.

The pools that are so frequent upon the vast meadows that lie between Atlantic City and the mainland are also excellent collecting-places. On sunny days the surface of these pools is often almost covered with diatoms. *Scoliopleura tumida* and *Pleurosigma Balticum* may often be obtained here in great quantity. Other species of *Pleurosigma* and *Amphiprora pulchra* are not uncommon. In visiting these pools it is best to leave the train at Absecon station and visit those nearest the mainland, as those near Atlantic City are much contaminated with sewage.

In the brackish ditches, the curious and ever interesting *Bacillaria paradoxa* may often be obtained in abundance, sometimes clinging to the stems of water plants, but oftener in little patches upon the surface of the water.

Appended is a list of the species observed mostly during the spring and autumn months:

IN THE MEADOW-POOLS NEAR THE INLET.

Amphora costata, Gregory, *A. lanceolata*, Cleve, *A. lineata*, Greg., *A. plicata*, Greg., *A. rectangularis*, Greg.; *Biddulphia rhombus*, W. Smith.; *Coscinodiscus omphalanthus*, Ehrenberg, *C. eccentricus*, Ehr., *C. lineatus*, Ehr.; *Epithemia musculus*, Kutzing; *Navicula amphisbœna*, Bory, *N. peregrina*, Ehr., *N. permagna*, Bailey, *N. prætexta*, Ehr., *N. veneta*, Kutz.; *Nitzschia bilobata*, W. Sm., *N. epithemioides*, Brebisson, *N. marina*, Grunow, *N. Sigma*, W. Sm., *N. vivax*, W. Sm.; *Pleurosigma Balticum*, W. Sm., *P. fasciola*, W. Sm.; *Rhaphoneis amphiceros*, Ehr.; *Scoliopleura tumida*, Rabenhorst; *Stauroneis aspera*, Ehr.; *Triceratium alternans*, Bailey, *T. favus*, Ehr.

ON ALGÆ IN THE BAY.

Achnanthes brevipes, Agardh; *Berkleya fragilis*, Greville; *Biddulphia aurita*, Breb., *B. lævis*, Ehr., *B. pulchella*, Gray; *Cocconeis scutellum*, Ehr.; *Grammatophora marina*, Kutz.; *Licmophora flabellata*, Ag., *L. tincta*, Grun.; *Melosira nummuloides*, Kutz.; *Rhabdonema Adriaticum*, Kutz., *R. arcuatum*, Kutz.; *Schizonema Americanum*, Grun., *S. Grevillii*, Ag.; *Striatella unipunctata*, Ag.; *Synedra fulgens*, W. Sm.

IN POOLS ON THE MARSHES NEAR THE MAINLAND.

Amphiprora pulchra, Bailey; *Bacillaria paradoxa*, Gmelin; *Melosira nummuloides*, Kutz.; *Pleurosigma Balticum*, W. Sm., *P. fasciola*, W. Sm., *P. hippocampus*, W. Sm.

IN BRACKISH DITCHES AND MARSHES NEAR ABSECON.

Actinoptychus undulatus, Ehr.; *Amphiprora pulchra*, W. Sm.; *Cocconeis scutellum*, Ehr.; *Coscinodiscus subtilis*, Ehr.; *Cyclotella operculata*, Kutz.; *Navicula elegans*, W. Sm., *N. didyma*, Kutz., *N. peregrina*, Ehr., *N. pusilla*, W. Sm., *N. Smithii, Breb.*, *N. forcipata*, Grev.; *Nitzschia dubia*, W. Sm., *N. fasciculata*, Grun., *N. granulata*, Grun., *N. Scalaris*, W. Sm., *N. Sigma* (W. Sm.) var. *rigidula*, Grun.; *Rhaphoneis amphiceros*, Ehr.; *Rhoicosphenia curvata*, Grun.; *Stauroneis salina*, W. Sm.; *Surirella angusta*, Kutz.; *S. Febigerii*, Lewis, *S. gemma*, Ehr., *S. Molleriana*, Grun., *S. ovata*, Kutz.; *Tryblionella levidensis*, W. Sm.

Notes on the Flora of the Upper Chemung Valley.

Unless otherwise specified, all the plants mentioned are found in the vicinity of Painted Post, Steuben Co., N. Y., which is situated at the junction of the Canisteo and Conhocton, the two streams that form the Chemung.